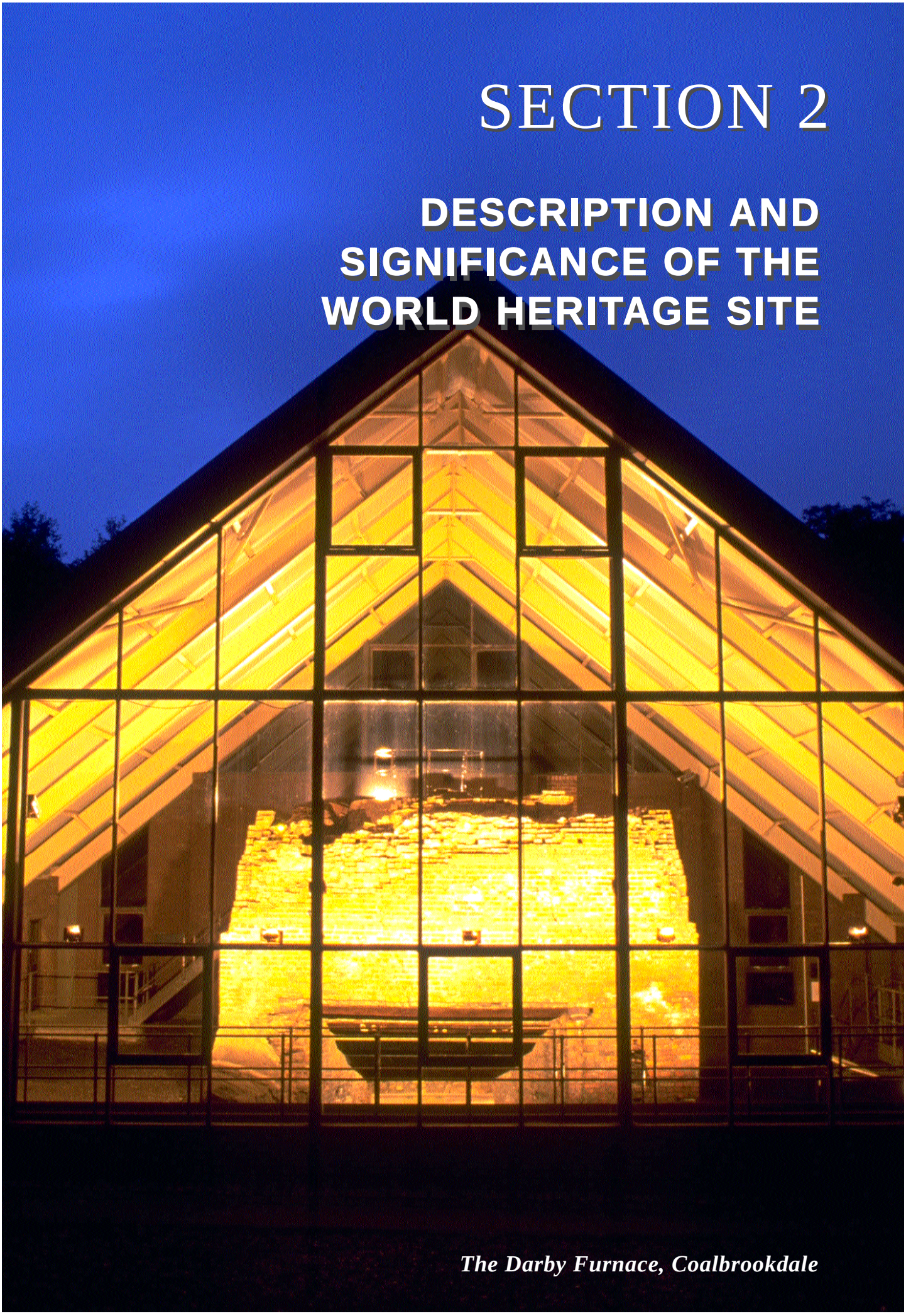
SECTION 2

DESCRIPTION AND SIGNIFICANCE OF THE WORLD HERITAGE SITE



The Darby Furnace, Coalbrookdale

This section describes the existing character and significance of the WHS and how they are a product of the area's unique history.

2 DESCRIPTION AND SIGNIFICANCE OF THE WORLD HERITAGE SITE

2.1 Name of the WHS

Ironbridge Gorge

2.2 Date of inscription onto the World Heritage List

1986, on the nomination of the U.K. Government

2.3 Location

Country:
England, within the United Kingdom

Region:
West Midlands

Local Authorities:
Telford & Wrekin Unitary Authority;
Shropshire County;
Bridgnorth District

Parishes:
The Gorge; Madeley; Broseley; Barrow; Sutton Maddock

Geographical co-ordinates:
(The Iron Bridge)
National Grid Reference: SJ 672 034
Longitude: 2° 29' W
Latitude: 52° 37' N

2.4 Boundary and brief description of the WHS

2.4.1. The boundary of the WHS, which encloses an area of approximately 550 hectares, is the same as that of the Severn Gorge Conservation Area which was formally designated in 1980 and was defined in order to include all the major sites of historic and cultural significance within the Ironbridge Gorge. The WHS includes the communities of Coalbrookdale, Ironbridge, Coalport and Jackfield and part of the community of Madeley.

The Iron Bridge,
Aquatint by M. Dubourg, 1823

2.4.2 The WHS lies at the southern end of a coalfield, generally known in historical and geological literature as the 'Coalbrookdale Coalfield', which extends about 16 km north to south from Lilleshall to Willey, and at its widest is no more than 5 km from east to west. The Coalfield is exceptionally rich in mineral resources. Some twenty-one of its coal seams and eight seams of iron ore have been worked in

the past, together with clays employed in house bricks, firebricks, roofing tiles, decorative tiles,pottery and tobacco pipes. There are two principal outcrops of carboniferous limestone, while Silurian limestone is found on either side of the Ironbridge Gorge and extends southwards to Wenlock Edge. The River Severn flowing through the Ironbridge Gorge was the principal route for the products of the Coalfield en route to customers in the wider world.

Ironstone mines in Madeley Wood, Warington Smyth, 1847

2.4.3 'Ironbridge Gorge' is used, for the sake of simplicity, throughout this Plan, although the structure from which that name was derived - the Iron Bridge - was not built until 1777-81. The Bridge was recognised at the time as the first of its kind, and was the most celebrated of the many spectacular sights that drew visitors to this area of Shropshire in the late eighteenth century. The Gorge was formed by a glacial overflow, and is now the point where the River Severn flows from west to east

The Limekiln at Coalbrookdale, J.M.W. Turner, 1796

through the high land formed by the Silurian and Carboniferous measures. The minerals found in the area were extensively exploited between the mid sixteenth century and the early twentieth, but much of the area is now wooded, vegetation having taken root on the spoil tips created by mining and other industrial activities. At the western end of the Gorge there remains much evidence of the working of limestone on Benthall Edge and Lincoln Hill.

2.4.4 The pattern of settlement in much of the Gorge is of an informal nature and is disordered in appearance. Manorial control in the seventeenth century was weak and it was possible for incoming migrants to squat on common land or build cottages on waste areas. Many residential plots are consequently of irregular shape and are linked by pathways and flights of steps which in origin were primitive railways or packhorse tracks serving the hillside mines. In Coalbrookdale and Coalport there are more formal terraces of cottages built by employers for their workpeople from the mid eighteenth century, while around the Square at the northern end of the Iron Bridge are buildings that conform to the traditions of polite architecture, reflecting the ambitions of the builders of the bridge to create a mannered urban environment for their innovative new structure.

Severn Side, Ironbridge: eighteenth-century houses cleared c.1950

2.4.5 Within the WHS were six major blast furnace complexes of the period of the Industrial Revolution between the early eighteen century and the mid nineteenth century, the remains of three of which are

currently presented to the public. Evidence of other industrial activities is plentiful throughout the Gorge, for example, potteries, tobacco pipe works, tile factories, lead smelters and chain works. Along the banks of the Severn are remains of many wharves formerly used by barges carrying away the products of the region. The river is crossed by three historic iron bridges. The principal areas of historic interest within the WHS are described below and in greater detail in Appendices 2 and 3, but the whole region is rich in evidence of its eventful history.

Calcutts Ironworks,
George Robertson, 1788

2.5 Significance of the Ironbridge Gorge WHS

2.5.1. **Statement of significance:** The world has recognised the significance of the Ironbridge Gorge since the eighteenth century when artists, engineers and writers from many countries were drawn to the area to admire innovations in ironworking, mining, and in structural and mechanical engineering. The Iron Bridge itself, set in a context of smoke, flames and intense human activity, was perceived as the symbol of the profound changes that were taking place in Britain in the late eighteenth century, and the new technologies developed in the Gorge influenced economic and social developments throughout the world. The process of smelting iron with coke instead of charcoal was perfected in Coalbrookdale by Abraham Darby I in 1709. This led to a revolution in the making of iron. From the initial output of humble cooking pots, successive members of the Darby family expanded the Coalbrookdale Works to make wrought-iron, to cast steam engine cylinders and eventually bridges. In the iron works of The Gorge were laid the foundations of the railway age with the manufacture of the first iron rails, iron wheels, aqueduct and bridges and in 1802 the first successful steam locomotive designed by Richard Trevithick.

Coalbrookdale Ironworks,
G. Perry and T. Vivares, 1758

2.5.2 The landscape of the Ironbridge Gorge is rich in evidence of the heroic period when it was the focus of international attention. The Gorge was blessed with mineral riches, with iron ore, limestone, clay and sand, and many traces remain of the mines and quarries from which these were extracted. There are still warehouses and wharves along the banks of the River Severn, which carried much of the trade of the Gorge, and the sluices and pools along tributary streams which were the source of power for bellows, hammers and mills, can still be recognised.

Coalport Warehouse
H. Clements, 1884

2.5.3 The landscape reflects the ambition and imagination of the entrepreneurs and engineers of the past. It contains a wealth of monuments associated with production, blast furnaces for smelting iron ore, factories where porcelain, bricks, tobacco pipes and tiles were manufactured, and engineering works which produced steam engines, locomotives and bridge castings. Monuments of transport systems are further evidence of the confidence and scientific understanding of those who lived in the Gorge in the eighteenth century, the Iron Bridge, universally believed at that time to be the first of its kind, the Hay inclined plane which carried boats 70m up and down the slopes above Coalport, and the numerous traces of the primitive railways that were the forebears of the railways which transformed much of the world after 1830.

Maw & Co. China Works, Jackfield

2.5.4 The industrial monuments of the Ironbridge Gorge are associated with people whose names are internationally known: the Darby family which was involved with the management and control of the Coalbrookdale ironworks for more than 200 years; William Reynolds, whose entrepreneurial skills were allied to a profound interest in science; Thomas Telford, the great civil engineer; Rev John Fletcher, the Swiss-born pastor who was one of the principal theologians of the Evangelical Revival of the eighteenth century; and the ninth Earl Dundonald, the most imaginative industrial chemist of his generation. Some of their homes still stand, as do some of the structures for which they were responsible.

William Reynolds, industrialist (1758–1803)

2.5.5 The landscape of the Gorge also reflects the achievements of talented men and women who are no longer individually remembered, but whose skills in sinking mines, moulding iron castings, painting china and sailing barges were the foundation of the area's prosperity and fame. Cottages built on open land by families of miners and mariners between 1600 and 1750 still stand, as do terraces built by the ironworking companies for their employees of a later generation. The landscape also reflects communal activities, and many of the public houses, churches, chapels, schools and institutes which were the focal points of social life in the Gorge in past generations can still be seen.

2.5.6 This is a landscape that reflects pain as well as triumph. Memorials provide evidence of accidents in mines, of the employment underground of young children, and of the impact of cholera epidemics. It is still possible to recognise scenes of confrontation between employers and workers in times of economic crisis.

2.5.7 It is also a landscape that is interpreted. Since the formation of the Ironbridge Gorge Museum Trust in 1967 the area has attracted visitors who can now see monuments that have been restored, together with collections of the products of the enterprises of the Gorge, and the artefacts which framed the lives of its past inhabitants.

Coalport China Museum: consolidation of the "half-kiln", 1980s

2.5.8 In summary, the Ironbridge Gorge was one of the areas of the United Kingdom that experienced profound economic and social changes between 1750 and 1820. The people of the Gorge pioneered new means of mining coal, of working iron, of building bridges, of applying the power of steam, of building railed ways and carrying canals over inhospitable territory. Its landscape reflects both the pains and the triumphs of human experience, and is part of the world's heritage from which all can learn.

2.5.9 **The International Context:** The World Heritage List currently includes fewer than twenty Sites that relate to the history of industry. Wieliczka in Poland and Arc-et-Senans in France were concerned with salt-working; Potosi in Bolivia, Guanajuata in Mexico, Rammelsberg (Goslar) in Germany, Banská Stiavnica in the Slovak Republic, Røros in Norway and Falun in Sweden with the mining of non-ferrous metals; Crespi d'Adda in northern Italy with textiles and hydro-electric power; and Verla in Finland with timber-processing. Some Sites concerned with transport, including the *Tysksebryggen* (German quay) in Bergen and the Canal du Midi in France can also be regarded as industrial monuments, as can some monuments of the ancient world like the Pont du Gard. Only Engelsberg in Sweden, Völklingen in Germany and Blaenavon in the United Kingdom, are concerned with coal and iron, the materials which were the foundation of the prosperity and celebrity of the Ironbridge Gorge.

2.5.10 Engelsberg is the best preserved example of the characteristic Swedish *bruk* (ironworking settlement) of the seventeenth and eighteenth centuries. It was a community devoted to the smelting of iron ore and the forging of pig iron into wrought iron. Charcoal was used as fuel in both processes and the whole of the local forest economy was focused on the supply of wood which could be burned to make charcoal. The industrial monuments at Engelsberg include a blast furnace, a forge, workers' housing and the owner's mansion standing in ornamental grounds where one of the features is an elegant summer house made from blast furnace slag. Engelsberg is an astonishingly complete and breathtakingly beautiful example of a particular kind of industrial community. It reflects a culture and forms of technology quite distinct from those that characterised the Ironbridge Gorge.

2.5.11 Blaenavon in South Wales is a community that grew rapidly from 1789 when an ironworks was established by entrepreneurs who applied and carried forward the technologies that had been developed in the Ironbridge Gorge. It represents the phase of development subsequent to that which can be observed at Ironbridge, when iron from British ironworks and steam coal from the mines of South Wales were exported to many countries.

2.5.12 Völklingen in the Saarland in Germany is an extensive and largely complete blast furnace complex whose earliest parts date from the late nineteenth century. It represents a stage of development later than that exemplified at Blaenavon, and illustrates the colossal scale of ironworking that was characteristic of the twentieth century.

2.5.13 The Ironbridge Gorge is complementary to these other sites on the World Heritage List. While all are concerned with the working of iron or coal, they represent different chronological periods, different forms of technology and distinctive cultural traditions.

2.5.14. **National and Regional Contexts:** In addition to its international significance, the Ironbridge Gorge has also played an important part in the history of industrialisation nationally

and regionally. This importance is amplified in Appendix 2 and also in the following evaluation of the industrial remains within the WHS.

(i) Iron structures

The Iron Bridge is the only substantial iron road bridge to survive from the eighteenth century. It was universally accepted at the time of its construction that it was the first of its kind. It is complemented within the WHS by two other iron bridges. The bridge at Coalport was rebuilt in its present form in 1818. It was originally a wooden structure to which three sets of iron ribs, of which five half-ribs remain, were added in 1797. The Albert Edward Bridge of 1862 is a single iron arch that carries a railway over the River Severn, and was cast by the Coalbrookdale Company to the design of John Fowler. The Iron Bridge is also complemented locally by the iron aqueduct built by Thomas Telford in 1796 at Longdon, about 16km north of the WHS, and by several smaller iron bridges, including that built by the Coalbrookdale Company in 1797 at Cound Arbour, and that of 1812 at Aston Cantlop. The impact made by the Iron Bridge in continental Europe is shown by a small wrought iron replica bridge of 1791 that survives at Worlitz in Germany.

The Iron Bridge,
William Williams, 1780

(ii) Ironworks

The WHS includes three groups of blast furnaces, at Coalbrookdale, Bedlam and Blists Hill. All have been surveyed in recent years, and the results including detailed drawings have

Blists Hill furnaces in the 1860s

been published (Hayman, Horton & White 2000). Blast furnace structures from the late eighteenth century and the early nineteenth century also remain elsewhere in the country. For example, in South Wales at Clydach, Cyfarthfa, Hirwaun, Neath Abbey, Cefn Cribwr, Tondu and Blaenavon, (the latter within the WHS), at Dyfi in mid-Wales; in England at Duddon and Backbarrow in the Lake District, at Low Mill and Rockley in the Sheffield region, at Moira in Leicestershire; and in Scotland at Bonawe in Argyll. Some of these complexes retain features that no longer survive in the Ironbridge Gorge, but the Coalbrookdale and Bedlam furnaces are of particular historical significance: the former as a seventeenth-century structure successively enlarged until it was blown out in 1818, and as the furnace where iron was first successful smelted with coke rather than charcoal; and the latter as the only group that survives from the great period of expansion in Shropshire in the 1750s.

Bedlam Furnaces; excavated and consolidated in the 1970s

The significance of the surviving furnaces in the Ironbridge Gorge is increased by the survival of other, historically less important structures, elsewhere in Telford and in other parts of Shropshire. Remains of nineteenth-century blast furnaces are conserved at Stirchley and Hinkshay in Telford Town Park and at the Lodge in Granville Country Park. Earlier furnaces survive at Leighton, about 5 km west of the WHS, and at Charlcott in the depths of the Shropshire countryside, about 20 km to the south. At Willey, just outside the WHS, extensive earthworks remain of the ironworks operated by John Wilkinson between 1757 and 1804.

John Wilkinson, ironmaster (1727-1808)

The Upper Forge at Coalbrookdale is a significant example of a surviving building in the United Kingdom of an eighteenth-century forge, using that word in the sense of a works at which wrought iron was made from pig iron, rather than one where wrought iron or steel products were produced by hammering, rolling or pressing.

Upper Forge, Coalbrookdale

(iii) Mining

The outstanding monument of the mining industry in the Ironbridge Gorge is the Tar Tunnel, but it is important as a geological curiosity and as evidence of the skills of eighteenth-century miners rather than of methods of extracting coal or iron ore. There are no mining structures in the Ironbridge Gorge comparable to those at the national mining museums at Caphouse, Blaenavon and Newtongrange, nor to those at Chatterley Whitfield Colliery in North Staffordshire, but notable landscapes of early mining are conserved within the Gorge in areas like Ladywood, Benthall Woods and Madeley Wood and in such nearby parts of the Coalbrookdale Coalfield as Telford Town Park, Lightmoor and Granville Country Park. Some aspects of mining, including a steam winding engine are demonstrated at the Blists Hill Museum. There is much evidence of the extraction of limestone at Benthall Edge and Lincoln Hill. The significance of the evidence of mining in the WHS is that it can be seen as part of a broad pattern of industrial growth, and that the role of mining in relation to ironmaking, ceramics and other manufacturing industries can readily be appreciated from evidence in the landscape.

Miners at Blists Hill Mine, 1890s

(iv) Ceramics

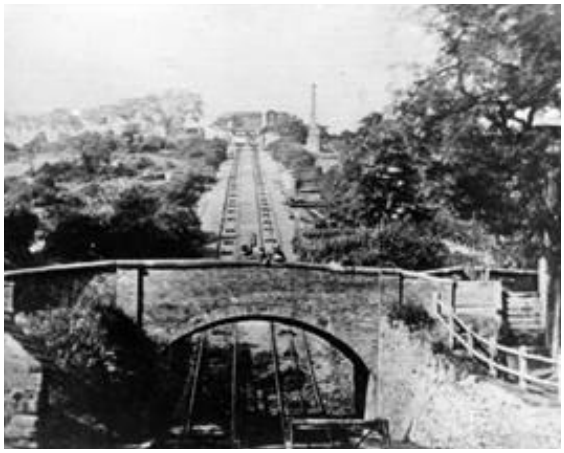
Four substantial ceramics works are preserved in the Ironbridge Gorge: the Coalport china works, the tile factories of Maw and Craven Dunnill, and the brickworks at Blists Hill. There is evidence of earlier ceramics industries at Jackfield, Benthall and Coalport. Coalport, at its

height in the mid nineteenth century, was among the most productive china factories in the land and stood comparison with the major manufacturers of North Staffordshire. The remains of the Coalport works complement those monuments surviving in North Staffordshire and are among a small group that contain national quality collections of the fine china where it was made. Of the three very large decorated tile works in the United Kingdom in the late nineteenth century, two (Maws and Craven Dunnill) were in the Ironbridge Gorge and the third, (Minton Hollins), in Stoke on Trent. As with Coalport, only Craven Dunnill contains a national collection of the products made there. It is also alone in continuing the tradition of tile manufacture with the recent return of Craven Dunnill as a tenant of the Museum.

Coalport China Works, early nineteenth century.

(v) Canals

The principal significance of the section of canal conserved in the Ironbridge Gorge is that it incorporates the Hay inclined plane, one of six on the tub boat canal system of the Coalbrookdale Coalfield. These were amongst the few inclined planes or boat lifts of the Industrial Revolution period that were successful in the long term. The Hay inclined plane in the WHS operated for about a century from 1794. In an international context it can be interpreted as a direct predecessor of the inclined planes built in the second half of the twentieth century at Ronquières in Belgium, St Louis-Arzviller in France and Krasnoyarsk in Russia. The remaining canal within the WHS is complemented by the earthworks of two of the other inclined planes in the Coalbrookdale Coalfield at Hugh's Bridge, Lilleshall, and at Wrockwardine Wood; the wharf designed by Thomas Telford at Wappenshall; reservoirs at Hinkshay and Trench; the stone structure from which the settlement at Aqueduct takes its name; and the iron aqueduct at Longdon.



The Hay Inclined Plane c.1900

(vi) Primitive Railways

The Shropshire Coalfield is acknowledged to be one of the two birthplaces of the English railway (the other is the Northumberland/Durham Coalfield where similar patterns of monuments remain). The WHS is rich in remains of primitive railways. The tracks of inclined planes survive at Brierly Hill above Coalbrookdale, Bagguley's Wind near Blists Hill and on Benthall Edge.

Broseley 1788; coalmine with packhorses and railway

Three primitive railways were built from Coalbrookdale to Horsehay between 1750 and 1820, two of which can be followed as footpaths. A late nineteenth-century wrought iron latticework bridge, constructed to carry plateway track, survives on the edge of the Blists Hill Museum. These monuments are complemented elsewhere in the Coalfield by a masonry tramway bridge of c.1760 at Newdale, and by several bridges constructed to carry standard gauge railways over earlier primitive railways.

(vii) Roads

The WHS contains several examples of roads constructed during the Industrial Revolution period. The most notable is Madeley Bank, which was built between 1806 and 1810 and climbs the hill between the centre of Ironbridge and Madeley. It forms an enlightening contrast with Lincoln Hill, the route by which the ancient road from Much Wenlock to Shifnal ascended the side of the Gorge. Other new roads of the late eighteenth century and early nineteenth century include that from the south side of the Iron Bridge through Ladywood and up the side of the Gorge to Broseley, and that from Coalbrookdale to Lawley. These monuments are complemented by the road from Eaton Constantine crossroads to Cressage, about 8 km west of the WHS, which was the first road designed by Thomas Telford, and by the section of Telford's Holyhead Road, improved between 1815 and 1836 in such a way that it was the best of its time in Europe, that passes through Telford between Priorslee and Overley Hill.

Lincoln Hill, Ironbridge, 1890s

(viii) Cultural Landscapes

The Ironbridge Gorge WHS is historically significant not because it represents particular aspects of the history of industry, transport or technology, but also because it forms a remarkably complete cultural landscape. Within it, it is possible to observe varied patterns of settlement, ancient property boundaries, houses occupied both by workers and entrepreneurs, places of worship, recreational and cultural buildings and facilities, and waste tips, as well as monuments which relate to production and transport. The landscapes of other industrial WHSs are comparably complex, but the way in which the intricate origins of the patterns of industrial growth that emerged in the eighteenth century are illustrated in the Ironbridge Gorge is unique.

The Old Vicarage, Madeley, once occupied by Rev John Fletcher

2.6 Values of the World Heritage Site

2.6.1 The following sections define the attributes and values which make the Ironbridge Gorge WHS of universal significance. Such an assessment deepens our understanding of the area which, in turn, helps to ensure that management decisions affecting the WHS are properly informed. This assessment reflects a consensus of views of all the agencies, organisations and individuals involved in the production of this Management Plan and provides the foundation upon which the proposals and actions in the Management Plan are based.

2.6.2 World Heritage Site Values: The Ironbridge Gorge was inscribed on the World Heritage List in 1986 on the nomination of the UK Government. When considering nominations, UNESCO assesses prospective WHSs against six varied criteria relating to the universal significance and cultural importance of the area. It was considered that the Ironbridge Gorge fulfilled the following four criteria which were identified as compelling reasons for its inscription as the first industrial World Heritage Site.

i. *'Represents a masterpiece of human genius'*

ii. *'Exhibits an important interchange of human values over a span of time, or within a cultural area'*

iii. *'Be an outstanding example of a type of building or architectural ensemble or landscape, which illuminates a significant stage in human history'*

iv. *'Be directly or tangibly associated with events or living traditions, with ideas or beliefs, with artistic or literary sites of outstanding universal value'*

2.6.3. UNESCO was also satisfied that the Ironbridge Gorge also fulfilled two further criteria relating to its **authenticity** and **management**, namely:

i. *'The site must meet the test of authenticity in design, material, workmanship or setting'*

ii. *'The site must have adequate legal protection and/or traditional protection and management mechanisms to ensure its conservation'*

Since the designation of the WHS in 1986 criteria relating to authenticity have been developed at the conference held at Nara, Japan, in 1994. The paper on 'Authenticity in the Industrial Heritage' presented at the Nara Conference argued that the essence of the industrial landscape is the co-existence within it of heroic and mundane structures, which is precisely what can be observed in the Ironbridge Gorge. While there have been substantial changes in local government structures relating to the Ironbridge Gorge since 1986, and in the ownership of some of the key sites, these have done nothing to reduce the levels of legal protection detailed in the original designation document, namely through the scheduling of certain sites as Ancient Monuments, the listing of historic buildings and the designation of the whole WHS as a Conservation Area.

2.6.4 Historical values: The landscape of the Ironbridge Gorge remains rich in evidence of the Industrial Revolution period. Evidence in the landscape is supplemented by documentary and oral sources, and by the extensive collections of images and artefacts held by the Ironbridge Gorge Museum. All the collections have been designated as nationally important. They bring together machines, tools, ironwork, china, tiles, clay pipes and other things manufactured in the Gorge over the last three centuries, with the memorabilia, possessions and archives of the people who lived within or were important to the area. Particular collections are:

- The Darby Collection including the homes, furniture, memorabilia, and archives of successive generations of the Darby family up to the present century, Included are Quaker costumes, products of the ironworks with particular strength in decorative and utilitarian cast-iron, machines and the remains of furnaces and works.

- The Elton Collection of prints, drawings, paintings, books and ephemera relating to the Industrial and Transport Revolutions in this country and, to a limited extent, abroad.

- The Telford Collection of manuscripts, books, prints, drawings and photographs relating to the life and works of Thomas Telford.

- The largest and most representative collections of Caughley and Coalport porcelain comprising some 4,000 items with supporting artwork and archives, and a major collection of Salopian Art pottery.

- Tiles, moulds and architectural ceramics comprising some 40,000 items with documents on Maw & Company and Craven Dunnill Ltd; the George Maw Geological and Mineral Collections.

- The small workshops and houses of the Blists Hill Victorian Town based on an extensive collection of the social and industrial objects of the region.

- The Lewis Collection of plateway, waggonway and railway artefacts.

- The National Collection of Metallurgical Slag.

In addition to the above collections, the Records and Research Centre in Shrewsbury holds many additional records relating to life and work in the Ironbridge Gorge, including the archives of the Darby Family.

Punch & Judy tile panel made by Maw & Co. in the 1920s

2.6.5 Architectural and Townscape values: At the time when the building of Telford New Town began in the 1960s, the Severn Gorge was 'effectively frozen in its late Victorian state'. Although there was subsequently some new development and alteration, over 1,000 buildings of pre-1914 date survive and these are concentrated in the main settlements of Ironbridge, Madeley, Coalbrookdale, Jackfield and Coalport. The buildings within each of these areas are strongly characterised by the area's unique industrial history.

Former shop, Jockey Bank, Ironbridge

2.6.6 Ironbridge was described by 1837 as the 'mercantile part of the Town of Madeley' and it developed rapidly after the completion of the Iron Bridge in 1779. Evidence of its success as a thriving market town are the distinguished, arcaded market buildings, the Tontine Hotel and the shop fronts along High Street. Warehouses survive at the Severn Wharf building in the Gothic style and along the Wharfage. A fashionable residential area developed behind the Market Square and up the steep road to Hill Top. Large houses of the professional and servant keeping classes were built in a variety of styles including fanciful Gothic villas and imitations of eighteenth-century town houses. The 1830s Church of St Luke has a simple Gothic brick exterior, but contained fine galleries supported by slender cast-iron columns made in Coalbrookdale (Muter 1979).

Ironbridge, the planned square

2.6.7 Much of the ancient Parish of Madeley was rebuilt during the twentieth century leaving two historic enclaves; that around the octagonal Thomas Telford Church of 1797 retaining the core of the old medieval green and some fine seventeenth century barns associated with King Charles II; and the old High Street which has a range of commercial buildings including a cast-iron shop front and a number of chapels and churches - Wesleyan, Primitive Methodist, Baptist, Congregationalist and Roman Catholic.

Madeley Church, replaced by the existing Parish Church of 1797, designed by Thomas Telford

2.6.8 Coalport was a deliberate piece of urban planning, one of the few specially created inland ports of the Industrial Revolution. The bones of the settlements are the linear workshops and factories of the China Works and the rows of terraces set along the historic line of the canal, road and later railway connection. Building details include Coalbrookdale cast-iron windows to provide maximum light for china painting at the factory; and the characteristic red-brown bricks of the valley and clay tiles.

Coalport; John Rose and Co's works in the late nineteenth century

2.6.9 By contrast, the Coalbrookdale valley was never developed to a definite plan. By 1810, industrial buildings down the valley bottom outnumbered domestic properties. The remains of the dams and reservoirs of the water power system, the massive brick and tile building of the Victorian ironworks with later modern foundry buildings are still the dominant structures of the valley. It was only after 1830 that infilling with new residential buildings gave parts of the Dale their present character of a rural village. A large number of company buildings survive ranging from rows of early workers cottages (Engine Row, Carpenters Row, etc.) to its school, shop and Tudor Gothic Coalbrookdale Scientific and Literary Institute of 1859. The ironmasters' houses at Rosehill and Dale House have been carefully restored and contain some fine detail including cast-iron sills, lintels and railings. The working foundry is a powerful reminder of the industrial backbone.

Coalbrookdale: Joseph Farrington's view of 1789

2.6.10 Jackfield is an ancient mining and river trade settlement effectively sliced in half by the Great Western Railway in the mid nineteenth century. The early ironworks of Calcutts were effectively obliterated in the process. The remaining industrial and public buildings relate to clay industries that flourished from the eighteenth century – the brick and tile factories of Broseley and Jackfield supplied the red brown and mottled brown bricks and the plain tiles that characterise much of the building in the Gorge. Some exuberant examples of the use of brick and tile can be found in the Gorge at the Valley Hotel, built in 1757 by George Goodwin, the leading coalmaster of the day, and subsequently the home of George Maw of Maw & Company and on the Madeley Bank where polychrome roof tiling and exotic brick banding signal substantial managers' villas. Jackfield Church has fine examples of both exterior polychrome tiling and of the multi-coloured encaustic floors made across the railway line in

the Craven Dunnill tile factory. Both the latter and the Maws factory are striking examples of purpose-built Victorian works built on the line of the new railway.

Jackfield Church

2.6.11 Landscape and ecological values: In his recent work for Severn Gorge Countryside Trust, George Peterken has accurately summarised the development of the local woodlands that form the landscape context for the WHS: *"Ironbridge, Coalbrookdale and their immediate surroundings are very well wooded. Indeed, they probably support more woodland and trees than they have for centuries. In common with several other districts with early mining and industrial development, such as the Forest of Dean, Lower Wye Valley and the Peak District, a variety of rich habitats survived throughout the industrial zenith and a substantial measure of environmental recovery has been achieved following industrial decline. In common with these other districts, the present day woods comprise a rich mosaic of ancient and recent / secondary woodlands with patches of herb-rich grassland and heath in a rugged landscape."*

Today's beautiful, complex and distinctive landscape is characterised by this unusual combination of remains of early industry and mining, the land-use patterns of agriculture and woodland management and the survival of many historic industrial, commercial and residential buildings. These are all set within a dramatic and attractive 'natural-looking' valley landscape, with steep, hanging woodlands interspersed with smaller areas of settlement, grasslands and other open spaces, with the River Severn as a large, unifying landscape feature. As industries declined, large areas of post-industrial landscapes greened themselves, largely due to re-colonisation from an ancient woodland base. The process is scientifically significant and has resulted in a landscape that is clearly unusual and particular to this area. Though often steep and challenging, much of the landscape is readily accessible to walkers, often via paths and tracks once used as working or transport routes.

Peterken states, *'The ancient woods are semi-natural in the sense that they embody both natural features inherited from the original woodland and features imposed by the distant and recent influences of people. The pockets of lime woodland represent remnants of the original mixtures, whereas the beech and sycamore stands are products of the relatively recent human influences. However, even the beech and sycamore stands are largely self-sown, so these, too, have a natural element.*

This just reinforces the general perception that the woods and the whole Severn Gorge environment, are the products of both nature and people. This is true of ancient woodlands everywhere, but those in the Severn Gorge have been more profoundly altered than most.

Even without human influences the woods had distinctive characteristics. They are spread over a range of geological formations, from the Silurian limestone (which generates alkaline soils) to Silurian shales and Carboniferous coal measures (which generate acid soils). Topographically, they fall into two more-or-less distinct types:

(i) dingle woods, formed in deep, narrow ravines with narrow wooded floodplains, and (ii) slope woods, on the main banks overlooking the Severn and the wider tributary valleys. Geographically, the Severn Gorge is part of a broad borderland between the western uplands and the English lowlands, and the woods reflect this transitional character.

Superimposed on this natural variety is the diversity created by usage. Within the ancient woods, this takes the form of boundary banks, sunkways, quarries, spoil heaps, roads and tracks and various industrial relicts. What was

once a fairly simple pattern of soil variation related to topography and underlying geology, has been hugely complicated by microtopological features generated by past and present use. Furthermore, the context of the woods has changed: they are now surrounded by land which has been used variously for farming, industry and housing, and which latterly has been partly restored to woodland by planting or natural regeneration.

Under natural conditions, the woods of the Severn Gorge were more diverse than most in Britain. Today, however, the abrupt and rapid changes of the last two hundred years or so have generated woods that are more diverse in structure and stand composition, and more rapidly changing, than most other groups of British woods.'

2.6.12 Many areas of woodland and open space within the WHS have high ecological value. Ancient semi-natural woodlands and secondary woodland on disturbed or industrial land are common throughout, with smaller but valuable areas of grassland, meadows and heathland. The River Severn itself plays a major role in the local environment – it remains a relatively 'natural' river and is a County Wildlife Site throughout its length. Two significant areas of WHS countryside are designated as Sites of Special Scientific Interest (SSSI) because of their biological or geological value – these are Tick Wood and Benthall Edge, and Lincoln Hill respectively. Some ten other individual woodlands are designated as Wildlife Sites. The countryside of the WHS features a significant number of key habitats and species included in the national and regional Biodiversity Action Plans. The sheer scale and interlinked form of the Gorge's natural areas is significant – the value of the whole, in terms of landscape and ecology, is much greater than the sum of its parts.

Public footpath within the Lincoln Hill woodlands

2.6.13 **Community values:** Whilst the historic remains and records within the area are fundamental to the importance of the WHS, the Ironbridge Gorge is also a living and working community comprising a number of settlements, each with its own distinct sense of place and identity. The WHS provides a quality of life which is appreciated and valued by residents because of its aesthetic appeal, history, amenities and sense of community. These factors combine to foster a feeling of stability within the area, which is particularly significant when viewed alongside the rapidly changing landscape and communities that make up much of the rest of the new town of Telford.

Former Wesleyan Infants School, Madeley Hill

2.6.14 **Economic values:** Tourism activity associated with the WHS is an important generator of employment and income for the area. In addition to the many jobs directly related to tourism within the WHS, there are many more in related sectors that derive indirect benefit from tourism. The development of a thriving tourism industry based around the WHS has been a major factor in the regeneration of the area. Without it, the Ironbridge Gorge Museums would not have been able to develop into a world-class facility. Furthermore, local organisations and property owners would have been less inclined and able

to undertake the extensive programmes of restoration, renovation and enhancement that have been achieved within the WHS.

Decorative plaster work explained at Blists Hill Victorian Town

2.6.15 Currently, there are between 250,000 – 300,000 visitors to the Ironbridge Museums per annum, and it is estimated that other visitors to the WHS increase this to a total of about 600,000. Using the 'Cambridge Model' for estimating the economic benefits of tourism, the following estimates have been derived from the 1999 Telford & Wrekin Visitor Survey:

- In 1998/99, approximately 2.6 million visitors came to Telford & Wrekin
- In 1998/99, £76 million was spent by tourists in Telford & Wrekin
- Within Telford & Wrekin, there are approximately 1,930 direct tourism-related jobs, and an additional 620 non-tourism jobs dependent on the multiplier spend from tourism
- Tourism supports 350 jobs in the accommodation sector, 640 in catering, 540 in retailing, 330 in leisure/attractions and 80 in transport services
- Telford Town Centre acts is one of the 'gateways' to the WHS with motorway access, hotels and opportunities for shopping and other leisure experiences to complement the range of facilities in the WHS

2.6.16 Whilst not all the above visitor spend and tourism-related jobs occur within the WHS, the Ironbridge Gorge is without doubt the main visitor attraction within Telford & Wrekin and, as such, is responsible for generating a significant proportion of the area's tourism income and employment. Although the benefits of tourism are significant, there are also very real concerns within the local community about the potentially damaging aspects of tourism and the importance of the careful management of visitors to the area.

Visitor car parking in Ironbridge

2.6.17 There are also within the WHS businesses that do not rely heavily on tourism, but which nonetheless contribute to the economic life and vitality of the WHS. These include the Coalbrookdale Company, which manufactures Aga-Rayburn products, and the toy manufacturer Merrythought Ltd, which has operated from its Ironbridge factory for over 70 years. Both these companies have national and international reputations as producers of high quality products. The particular significance of the Coalbrookdale Company is that it continues the tradition of iron making in Coalbrookdale, uninterrupted since before the time of Abraham Darby at the beginning of the eighteenth century.

2.6.18 The WHS also has a potential economic benefit to a wider area. The fact that the Ironbridge Gorge is known internationally as the 'Birthplace of Industry'and also that the Iron Bridge itself is probably the most recognisable symbol of the Industrial Revolution both present significant marketing and promotional potential locally and regionally.

2.6.19 **Research and educational values:** The research value of the Ironbridge Gorge WHS is immense. The extensive above-ground and below-ground remains, the collections and documentation, and the oral history records together help to inform our understanding of the birth and development of industrial society and the particular contribution of the Ironbridge Gorge to that story.

2.6.20 The Ironbridge Gorge has become over the last twenty years an important National Education Centre. Formal education is dealt with by the extensive schools programmes of the Museum Trust (catering for approximately 55,000 school children in organised parties in 1999) and by the post-graduate training courses in Industrial Archaeology and Heritage Management at the Ironbridge Institute, part of the University of Birmingham. Lifelong education is strongly supported, fundamentally by the rich resources of the Museum Library, Archive and Collections, but also by the many other organisations that offer a range of hands-on courses including china and tile decoration, wood craft, glass blowing and boat building.

Schoolchildren studying the Iron Bridge

2.6.21 Increasingly, these organisations are able to reach out from the Gorge using the Internet. The Museum's website (www.ironbridge.org.uk) is a portal site providing links to numerous other related sites. The Museum is also a partner in the Telford Schools Intranet, steadily increasing historical resource material in support of the schools' curriculum.

2.6.22 A major project underway in the old engineering buildings of the Coalbrookdale Company will create by 2002 a hands-on Interactive Technology Centre in which historic and current machines are used to interest young people in the principles of science and engineering. The landscape and ecology of the Gorge has also long been used as a resource by teachers as well as amateurs interested in the regeneration of old industrialised landscapes.